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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/836,081	04/17/2001	Norio Sakai	36856.466	8268

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EXAMINER

ALCALA, JOSE H

ART UNIT	PAPER NUMBER
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2827

DATE MAILED: 10/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

### Office Action Summary

Application No.

09/836,081

Applicant(s)

SAKAI, NORIO

Examiner

José H Alcalá

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 7-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 13-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s): \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Claims 7-12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 0603.
2. Applicant's election was incomplete, since the applicant, never pointed out the claims readable on elected Species 1. However, to expedite prosecution, all the claims have been examined.

### ***Drawings***

3. The drawings are objected to because Figures 1,2,3,7-10 are improperly crosshatched. All of the parts shown in the section, and only those parts, must be crosshatched. The crosshatching patterns should be selected from those shown on page 600-81 of the MPEP based on the material of the part. See also 37 CFR 1.84(h)(3) and MPEP 608.02. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
4. Figures 4-6,8 and 10 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-3,13-18 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification fails to reasonably convey the limitation of Claims 1 and 13, of a via-hole conductor that includes first and second via-hole conductors having different sectional sizes.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-3,13-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 13, it is unclear how can a single via-hole conductor include first and second via-hole conductors having different sectional sizes.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-4, 13-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Takubo et al. (US Patent No. 6,329,610). As best understood by the examiner:

Regarding Claim 1, Takubo teaches a laminated ceramic electronic component (device of figure 3) comprising: a laminated member including a plurality of stacked ceramic layers (reference numbers 21 and 23) having a first ceramic layer (reference number 21) and a second ceramic layer (reference number 23) which is thinner than said first ceramic layer; wiring conductors provided for a certain layer of said ceramic layers and including a via-hole conductor (reference number 32 and 31) extending through said certain layer and a conductor (reference number 11a) extending along the principal surface of said certain layer; wherein said via-hole conductor includes first (reference number 31) and second (reference number 32) via-hole conductors having different sectional sizes.

Regarding Claim 13, Takubo teaches an electronic device comprising: a laminated ceramic electronic component (device of figure 3); and a wiring board (column 19, lines 34-36) for mounting said laminated ceramic electronic component thereon; wherein said laminated ceramic electronic component includes a laminated member having a plurality of stacked ceramic layers (reference numbers 21 and 23) including a first ceramic layer (reference number 21) and a second ceramic layer

(reference number 23) that is thinner than said first ceramic layer; wherein wiring conductors are provided for a specific ceramic layer and include a via-hole conductor (reference number 32 and 31) extending through said specific ceramic layer and a conductor film (reference number 11a) extending along the principal surface of said specific ceramic layer; and said via-hole conductor includes first (reference number 31) and second (reference number 32) via-hole conductors having different sectional sizes.

Regarding Claims 2 and 14, Takubo teaches that said first via-hole (reference number 31) conductor extends through said first ceramic layer, said second via-hole conductor (reference number 32) extends through said second ceramic layer, and the sectional size of said first via-hole conductor is larger than that of said second via-hole conductor (See Figure 3).

Regarding Claims 3 and 15, Takubo teaches that of all said via-hole conductors, the sectional size of the via-hole conductor extending through the thicker ceramic layer is larger than that of the via-hole conductor extending through the thinner ceramic layer (See Figure 3).

Regarding Claims 4 and 16, Takubo teaches that a plurality of said via-hole conductors extending through the same ceramic layer have substantially the same sectional size (See Figure 3).

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 5,6,17,18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takubo et al. (US Patent No. 6,329,610). As best understood by the examiner:

Regarding Claims 5 and 17, Takubo teaches all the elements as stated supra for claims 2 and 14, but fails to explicitly teach that the aspect ratio expressed by  $H/D$  is within the range of approximately 0.1 to approximately 3.0, wherein  $H$  and  $D$  represent the height and radial length of said via-hole conductor, respectively. Takubo suggests in Figure 3, an aspect ratio bigger than 1, but fails to specify the exact value. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the aspect ratio to be in a specific range between approximately 0.1 to approximately 3.0, in order to be able to vary the dimensions of the via-holes, and therefore the dimensions of the whole device. In addition, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Regarding Claims 6 and 18, Takubo teaches all the elements as stated supra for claims 1 and 14, but fails to explicitly teach that said plurality of ceramic layers have substantially the same dielectric constant. It is well known in the art to make contiguous dielectric layers of substantially the same dielectric constant, in order to prevent delamination in the layers. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Takubo in order to

have said plurality of ceramic layers have substantially the same dielectric constant, thus preventing delamination of the layers.

### **Conclusion**

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references teach some of the elements of the instant claimed invention: Greenstein et al. (US Patent No. 3,726,002), Older et al. (US Patent No. 3,922,479), Rowe et al. (US Patent No. 4,739,448), Alexander et al. (US Patent No. 5,061,824), Young (US Patent No. 5,408,053), Tsukada et al. (US Patent No. 5,451,721), Tanei et al. (US Patent No. 6,118,671) and Enomoto et al. (US Patent No. 6,320,140).

. Any inquiry concerning this communication or earlier communications from the examiner should be directed to José H Alcalá whose telephone number is (703) 305-9844. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (703) 308-1233. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JHA

*John B. Vigorshin*  
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